

ABSTRACT

Disclosed are an organic semiconductor material having high charge mobility characteristics and an organic semiconductor element. The organic semiconductor material has rodlike low-molecular liquid crystallinity, comprising: a skeleton structure comprising L 6 π electron aromatic rings, M 10 π electron aromatic rings, and N 14 π electron aromatic rings, wherein L, M, and N are each an integer of 0 (zero) to 4 and $L + M + N = 1$ to 4; and a terminal structure attached to both ends of the skeleton structure. The terminal structure can develop liquid crystallinity. The phase angle θ of impedance of the organic semiconductor material is $-80^\circ \leq \theta \leq -90^\circ$ as determined in the measurement of impedance in a frequency f range of $100 \text{ Hz} \leq f \leq 1 \text{ MHz}$ in such a state that the organic semiconductor material in an isotropic phase state is held between a pair of opposed substrates with an interelectrode spacing of 9 μm .